

Claims:

1. A windup window shade (12) for regulating the entry of light through a window into the interior of a motor vehicle, having

- at least one windup shaft (23),
- 5 - seating means (24), in which the windup shaft (23) is rotatably seated,
- connecting means (68), with which the seating means (24) are connected with each other, wherein the seating means (24) and/or the connecting means (68) are arranged to be attached to the motor vehicle (1),
- at least one window shade web (26), which is connected to the windup shaft (23) with one edge,
- at least one pair of guide means (13), each one of which extends at least a piece away from the side next to the extended window shade web (26) and each of which contains at least one guide groove (21),
- a traction rod (28), which is connected with an edge (27) of the window shade web (26) remote from the windup shaft (23) and whose ends are guided in the guide grooves (21), and
- 20 - a drive mechanism (35) for moving the traction rod (28) along the guide rails (13) and for driving the windup shaft (23).

2. The windup window shade in accordance with claim 1, characterized in that the windup shaft (23) is tube-shaped and contains a spring drive (25), which is part of the drive mechanism (35).

3. The windup window shade in accordance with claim 1, characterized in that the seating means (24) have a mounting flange (61, 65) for fastening in the motor vehicle (1).

4. The windup window shade in accordance with claim 1,

characterized in that the seating means (24) is a bent sheet metal element.

5. The windup window shade in accordance with claim 1, characterized in that the mounting flange (61, 65) is arranged to be fastened on the motor vehicle (1) in a material-to-material and/or interlocking connection.

6. The windup window shade in accordance with claim 1, characterized in that the window shade web (26) has been cut to approximate the window.

7. The windup window shade in accordance with claim 1, characterized in that the guide means (13) are connected, at least in sections, with the seating means (24) and the connecting means (68) to constitute a preassembled component.

8. The windup window shade in accordance with claim 1, characterized in that the guide means (13) are constituted by a guide rail, which contains an undercut groove (21).

9. The windup window shade in accordance with claim 1, characterized in that the guide means (13) extend in a manner corresponding to the associated edge of the window.

10. The windup window shade in accordance with claim 8, characterized in that the guide rail (13) is arranged to be fastened, at least in sections, to the motor vehicle (1) in a material-to-material and/or interlocking connection.

11. The windup window shade in accordance with claim 8, characterized in that the guide rail (13) is provided with at least one continuous surface (19, 20, 88), whose generatrix is a straight line extending at right angles in respect to the longitudinal axis of the guide rail (13).

12. The windup window shade in accordance with claim 8, characterized in that the guide rail (13) has two surfaces (19, 20), which are parallel to each other and whose generatrices are straight lines extending at right angles in respect to the longitudinal axis of the guide rail (13).

13. The windup window shade in accordance with claim 8, characterized in that on its side remote from the groove slit (22), the guide rail (13) is provided with a fastening flange (18) which is designed to be connected to the motor vehicle (1) in a material-to-material and/or interlocking manner.

14. The windup window shade in accordance with claim 8, characterized in that each guide rail (13) is divided into a first and a second section (66, 67), the first one (66) of which is connected with the seating means (24), wherein the length of the first section (66) is of such a size that it is capable of receiving the ends of the traction rod (28) when the window shade web (12) is in the completely retracted position.

15. The windup window shade in accordance with claim 14, characterized in that the first section (66) is of such a length that it extends only a short distance, related to the total length of the guide rail (13), past the traction rod (28) when the window shade web (12) is in the retracted position.

16. The windup window shade in accordance with claim 15, characterized in that the second section (67) is housed or formed in a lateral trim element (76) of the motor vehicle (1).

17. The windup window shade in accordance with claim 14, characterized in that the two sections (66, 67) are connected with each other via a hinge (71, 72, 73).

18. The windup window shade in accordance with claim 17, characterized in that the pivot axis (71) of the hinge (71, 72, 73) extends at right angles to the axis of rotation of the windup shaft (23).

19. The windup window shade in accordance with claim 17, characterized in that the hinge (71, 72, 73) is a film hinge or a predetermined bending point.

20. The windup window shade in accordance with claim 14, characterized in that the two sections (66, 67) of the guide rail (13) are connected with each other by means of a plug connection.

21. The windup window shade in accordance with claim 1, characterized in that the traction rod (28) consists of a center piece and two end pieces (29, 30), which can be moved in a telescope-like manner in relation to the center piece, wherein the end pieces (29, 30) are displaceably movable in the respective guide rail (13).

22. The windup window shade in accordance with claim 1, characterized in that the drive mechanism (35) has at least two drive members (46, 47), which are arranged drivingly between an electric drive motor (36) and the traction rod (28).

23. The windup window shade in accordance with claim 22, characterized in that the drive members (46, 47) are thrust members.

24. The windup window shade in accordance with claim 22, characterized in that the drive members (46, 47) are linearly-shaped members.

25. The windup window shade in accordance with claim 22, characterized in that the drive members (46, 47) have teeth (49)

on their exterior circumferential surface.

26. The windup window shade in accordance with claim 22, characterized in that the drive mechanism (35) has a gear motor (36), on whose output shaft (42) a gear wheel (43) is seated, which acts together in an interlocked manner with the drive
5 members (46, 47).

27. The windup window shade in accordance with claim 22, characterized in that guide tubes (44, 45), which extend from the drive motor (36) as far as an end of a respective guide rail (13), are provided for the drive members (46, 47).

28. The windup window shade in accordance with claim 27, characterized in that the guide tubes (44, 45) have the same cross-sectional profile as the guide rails (13).

29. The windup window shade in accordance with claim 26, characterized in that the gear motor (36) is attached to the connecting means (68).

30. The windup window shade in accordance with claim 1, characterized in that the connecting means (68), the seating means (24), together with the windup shaft (23), the guide tubes (44, 45), the drive motor (36) and at least sections (66) of the guide
5 rails (13) constitute a preassembled unit for mounting in the vehicle (1).

31. The windup window shade in accordance with claim 1, characterized in that at least one section (67) of the guide rails (13) is an integral part of a door or a body of the vehicle.

32. A body or a door for a motor vehicle (1), having at least one window opening (6), which has a circumferential window edge,

a window shade web (12), parts of which are:

5 - a windup shaft (23) which is rotatably seated in seating means (24),

- at least one window shade web (26), which is connected to the windup shaft (23) with one edge (27),

10 - at least one pair of guide rails (13), each one of which extends laterally next to the extended window shade web (26) and each of which contains at least one guide groove (21), wherein the guide rails (13) are provided at least in sections at or next to the window edge,

5 - a traction rod (28), which is connected with an edge of the window shade web (26) remote from the windup shaft (23) and whose ends are guided in the guide grooves (21), and

- a drive mechanism (35) for moving the traction rod (28) along the guide rails (13) and for driving the windup shaft (23).

33. The body or door in accordance with claim 32, characterized in that the window opening (6) contains a flange (79, 81) extending along the window edge and intended for fastening a window pane (9), and that the guide rails (13) are provided on or next to the flange (79, 81).

34. The body or door in accordance with claim 33, characterized in that the flange (79, 81) is formed by sheet metal sections placed on top of each other and shaped in such a way that they define a guide groove (92) between them.

35. The body or door in accordance with claim 33, characterized in that a strip (86) is formed on the flange (79, 81) to which the guide rail (13) is to be fastened.

36. The body or door in accordance with claim 32, characterized in that the window opening (6) has at least one double fold (78, 87) on the side, wherein the window pane (9) is fastened on its outer stage (79), while the inner one (87) is used

. 5 as a support for the guide rail (13).

37. The body or door in accordance with claim 33, characterized in that the guide rail (13) has a flange (18), which has been introduced between the window pane (9) and the flange (79, 81).

38. The body or door in accordance with claim 32, characterized in that the length of the traction road (28) can be changed in such a way that it is capable of following the changing distance between the guide rails (13).

39. The body or door in accordance with claim 32, characterized in that the windup shaft (23) is tube-shaped and contains a spring drive (25) which is part of the drive mechanism (35).

40. The body or door in accordance with claim 32, characterized in that the seating means (24) have a mounting flange (62, 65) for fastening in the motor vehicle.

41. The body or door in accordance with claim 32, characterized in that the seating means (24) are a bent sheet metal element.

42. The body or door in accordance with claim 40, characterized in that the mounting flange (62, 65) is designed for a connection to the motor vehicle (1) in a material-to-material and/or interlocking manner.

43. The body or door in accordance with claim 32, characterized in that the window shade web (26) has been cut to approximate the window.

44. The body or door in accordance with claim 32,

characterized in that the guide means (13) extend in a manner corresponding to the associated edge of the window.

45. The body or door in accordance with claim 32, characterized in that the guide rail (13) is arranged to be fastened to the motor vehicle in a material-to-material and/or interlocking connection.

46. The body or door in accordance with claim 32, characterized in that the guide rail (13) is provided with at least one continuous surface (19, 20, 88), whose generatrix is a straight line extending at right angles in respect to the longitudinal axis of the guide rail (13).

47. The body or door in accordance with claim 32, characterized in that the guide rail (13) has two surfaces (19, 20), which are parallel to each other and whose generatrices are straight lines extending at right angles in respect to the longitudinal axis of the guide rail.

48. The body or door in accordance with claim 32, characterized in that on its side (17) remote from the groove slit (22), the guide rail (13) is provided with a fastening flange (18) which is designed to be connected to the motor vehicle in a material-to-material and/or interlocking manner.

49. The body or door in accordance with claim 32, characterized in that each guide rail (13) is divided into a first and a second section (66, 67), the first one of which is connected with the seating means (24), wherein the length of the first section (66) is of such a size that it is capable of receiving the ends of the traction rod (28) when the window shade web (12) is in the completely retracted position.

50. The body or door in accordance with claim 49,

characterized in that the first section (66) is of such a length that it extends only a short distance, related to the total length of the guide rail (13), past the traction rod (28) when the window shade web (12) is in the retracted position.

51. The body or door in accordance with claim 49, characterized in that the two sections (66, 67) are connected with each other via a hinge (71, 72, 73).

52. The windup window shade in accordance with claim 51, characterized in that the pivot axis (71) of the hinge (71, 72, 73) extends at right angles to the axis of rotation of the windup shaft (23).

53. The body or door in accordance with claim 51, characterized in that the hinge (71, 72, 73) is a film hinge or a predetermined bending point.

54. The body or door in accordance with claim 49, characterized in that the two sections (66, 67) of the guide rail (13) are connected with each other by means of a plug connection.

55. The body or door in accordance with claim 32, characterized in that the traction rod (28) consists of a center piece and two end pieces (29, 30), which can be moved in a telescope-like manner in relation to the center piece, wherein the end pieces (29, 30) are displaceably movable in the respective guide rail (13).

56. The body or door in accordance with claim 32, characterized in that a section (67) of the guide rail (13) is constituted by an interior trim element (76) of the vehicle.

57. The body or door in accordance with claim 32, characterized in that the drive mechanism (35) has at least two

drive members (46, 47), which are arranged drivingly between an electric drive motor (36) and the traction rod (28).

58. The body or door in accordance with claim 57, characterized in that the drive members (46, 47) are thrust members.

59. The body or door in accordance with claim 57, characterized in that the drive members (46, 47) are linearly-shaped members.

60. The body or door in accordance with claim 57, characterized in that the drive members (46, 47) have teeth (49) on their exterior circumferential surface.

61. The body or door in accordance with claim 57, characterized in that the drive mechanism (35) has a gear motor (36), on whose output shaft (42) a gear wheel (43) is seated, which acts together in an interlocked manner with the drive members (46, 47).

62. The body or door in accordance with claim 57, characterized in that guide tubes (44, 45), which extend from the drive motor (36) as far as an end of a respective guide rail (13), are provided for the drive members (46, 47).

63. The body or door in accordance with claim 62, characterized in that the guide tubes (44, 45) have the same cross-sectional profile as the guide rails (13).

64. The body or door in accordance with claim 32, characterized in that the gear motor (36) is attached to the connecting means (68).

65. The body or door in accordance with claim 32,

characterized in that the connecting means (68), the seating means (24), the windup shaft (23), the guide tubes (44, 45), the drive motor (36) and at least sections (66) of the guide rails (13)
5 constitute a preassembled unit for mounting in the vehicle.